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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/599,276 | 09/25/2006 | Takayoshi Moriyama | 09450/0205428-US0 | 6428 |
| 7278 | 7590 | 09/29/2008 | EXAMINER | |
| DARBY & DARBY P.C. P.O. BOX 770 Church Street Station New York, NY 10008-0770 | | | | CHOI, JACOB Y |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/599,276 | MORIYAMA ET AL. | |
| | Examiner | Art Unit | |
| | JACOB Y. CHOI | 2885 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 25 September 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4,6,7,9 and 10 is/are rejected.
 7) Claim(s) 5 and 8 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 September 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>5/8/2008 & 9/25/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 5/8/2008 and 9/25/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Note: Claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

Things clearly shown in reference patent drawing qualify as prior art features, even though unexplained by the specification. *In re Mraz*, 173 USPQ 25 (CCPA 1972).

Claims **2 and 9** are rejected under 35 U.S.C. 102(e) as being anticipated by Sorg (USPN 6,759,803).

Regarding claim 2, Sorg discloses a substrate (1), a circuit pattern (5), formed on the substrate (FIG 2), a light emitting element (2), electrically connected (6) to the circuit pattern (5), a reflector (1), being formed on the substrate and having a housing portion (3) that houses the light emitting element (2) and a reflector-side fitting portion formed in a periphery of the housing portion (1A), and a visible light converting layer, disposed on the housing portion of the reflector so as to cover the light emitting element (column 4, lines 30-45; "*... volumetric proportion of the converter material contained in the resin filling is set such that an adequately large fraction of the blue light radiation is converted into yellow light radiation along this unified path length from the LED 2 ... so that the radiation is perceived by the human eye as white-light radiation*").

Regarding claim 9, Sorg discloses the visible light converting layer is formed by dispersing a visible light converting substance in one type of resin among a silicone resin, an epoxy resin, and a modified epoxy resin (column 3, lines 35-40 & column 3, lines 50-60; "*... the filling contains a resin material, in particular an epoxy resin ... the basic body contains a thermoplastic material*").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sorg (USPN 6,759,803)

Regarding claim 4, Sorg further discloses and anchoring-portion-provided penetrating holes, formed between the plurality of light emitting element positioning portions, and the reflector has reflecting portions, reflecting light from the light emitting elements and being formed on the substrate, and supporting portions, formed integral to the reflecting portions by making a resin flow into the anchoring-portion-provided penetrating holes of the substrate (column 4, lines 50-65; “... *the resin material 3 is not made to fill the recess 1A up to the rim but only up to a precisely fixed filing height below 1 ... a prefabricated lens 4 ... is inserted into the still liquid resin material 3, the surface of the resin filling coming into contact with the concave underside 4A of the lens 4 so that as a result the convex surface 3A of the resin filling 3 is produced ... the resin filling is cured*”).

However, Sorg fails to include that the substrate has a plurality of light emitting element positioning portions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify teachings of Sorg to position a plurality of light emitting elements on a substrate in order to enlarge the display area, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claims **1, 3, 6, 7, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorg (USPN 6,759,803) in view of Shaddock (US 2002/0163001).

Regarding claim 1, Sorg discloses a substrate (1) a circuit pattern (5), formed on the substrate (Fig 2), a light emitting element (2) electrically connected (6) to the circuit pattern (5), a reflector (1), being adhered by the substrate and having a housing portion (3) that houses the light emitting element and a reflecting surface on an inner surface of the housing portion (FIG 2), a visible light converting layer (column 4, lines 30-45; "... *volumetric proportion of the converter material contained in the resin filling is set such that an adequately large fraction of the blue light radiation is converted into yellow light radiation along this unified path length from the LED 2 ... so that the radiation is perceived by the human eye as white-light radiation*"'), disposed on the housing portion of the reflector so as to cover the light emitting element, and a lens (4) adhered onto the reflector on the substrate.

Sorg failed to specifically disclose the method of putting the reflector and lens onto the substrate.

Shaddock teaches the lens and/or the filter may be attached to the package by an adhesive such as a glue, an epoxy, or a silicone, for example ([0019]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize well known method(s) to assemble LED package together, such as utilizing adhesive agent. The examiner takes Official Notice of the equivalence of utilizing an adhesive agent and a glue, an epoxy, or a silicone for their method of forming a semiconductor in the illumination art and the selection of any of these known equivalents methods would be within the level of ordinary skill in the art.

Note: The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Similarly, regarding claim 3, Sorg discloses a lens (4), having a lens-side fitting portion that fits with the reflector-side fitting portion (1A) and is *glued* (column 4, lines 10-20; "... *LED light source with a lens glued on*") in a fitted state onto the reflector.

Sorg also suggested in column 4, lines 1-10 that "... *various modifications and structural changes may be made therein without departing from the spirit of the invention and within the scope and range of equivalents*".

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize well known method(s) to assemble LED package together, such as utilizing weld or welding. The examiner takes Official Notice of the equivalence of utilizing glue instead of weld for method of forming a semiconductor in the illumination art, and the selection of any of these known equivalents methods would be within the level of ordinary skill in the art.

Regarding claim 6, Sorg in view of Shaddock disclose the claimed invention. In addition, Sorg discloses the visible light converting layer is formed by dispersing a visible light converting substance in one type of resin among a silicone resin, an epoxy resin, and a modified epoxy resin (column 3, lines 35-40 & column 3, lines 50-60; “*...the filling contains a resin material, in particular an epoxy resin ... the basic body contains a thermoplastic material*”).

Regarding claims 7 & 10, Sorg further discloses two resin layers are formed on the housing portion of the reflector so as to cover the light emitting element, the visible light converting layer is the lower layer of the two resin layers and is formed by making a visible light converting substance sediment in one type of resin among a silicone, resin, an epoxy resin, and a modified epoxy resin (FIG 2).

Sorg discloses the claimed invention except for the visible light converting layer is the upper layer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the light converting layer, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Allowable Subject Matter

Claims **5 and 8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Waitl et al. (USPN 6,610,563) – surface mounting optoelectronic component and method for producing same

Kano et al. (USPN 3,875,456) – multi-color semiconductor lamp

Brunner et al. (US 6,897,490) – radiation emitting semiconductor component with luminescent conversion element

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB Y. CHOI whose telephone number is (571)272-2367. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jacob Y Choi
Primary Examiner
Art Unit 2885

JC

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